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UNITED STATES MARINE CORPS
Marine Corps Schools
Quantico, Virginia 22134

46/3B/FJM:rps

FEB 12 1964

From: Coordinator, Marine Corps Landing Force Development Activities, (CMCS)
Marine Corps Schools, Quantico, Virginia
To: Commandant of the Marine Corps

Subj: Evaluation of Combat Rifleman Environmental Training Range (Project
No. 31-62-02), report of

Ref: (a) HQMC ltr Ser No. A03C-grh/3150.14 of 17Aug62

Encl: (1) Sketch of Subject Range

INTRODUCTION

a. Purpose. Reference (a) directed an evaluation of the Combat Rifleman Environmental Training Range to determine:

- (1) Suitability for Marine Corps-wide use.
- (2) Range potential as a standard package that can be made available through normal supply channels.
- (3) Whether or not this standard range can be adapted to a uniform scoring system for use in annual or bi-annual qualification course.
- (4) If this combat range simulates realistic battle conditions.
- (5) Suitability for transition firing as a follow-up to known distance marksmanship training and for small unit problems in attack, defense, and assault phases, alone or in combinations.

b. Description. The range consists of four separate sections as shown in enclosure (1). These sections can be operated independently or in combinations to accommodate any unit from fire team to company size. Contrary to an ordinary rifle range, this combat range incorporates hilly terrain, obstacles, pop-up targets, machine gun simulators, artillery simulators, and demolition charges. A definite assault "problem" is incorporated with each segment as follows:

"A" Portion - Fire Team Offensive

"B" & "D" Portion - Platoon in the attack

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"C" Portion - Squad in the attack

"A", "B", "C" & "D" Portions - Company in the attack

c. Background. The subject range (Range #208) located at Camp Pendleton, California has been in operation since 31 August 1962 and used almost exclusively by the 2d Infantry Training Regiment. The range electrical apparatus was installed by the Minneapolis Honeywell Company under contract for the U. S. Naval Training Devices Center, Fort Washington, New York. Marine labor was used on all clearing and earthwork.

2. DISCUSSION

a. To determine suitability for Marine Corps wide use, the following factors were considered:

(1) Size of units to be trained. To satisfy Marine Corps-wide use requirements it would be necessary for this type combat range to accommodate a company size unit. This factor is considered a criterion because the rifle company is the basic maneuver element of the battalion which is considered the basic tactical organization. Although the military characteristics for the subject range state that it will encompass sufficient terrain and present sufficient targets and tactical situations to allow operation of unit problems up to and including the platoon level, this does not hold true. Tactical situations for the platoon are unrealistic because of target layout. Targets are non-tactically positioned for the benefit of the individual trainee who has not the experience of FMF Marines nor the guidance of NCO fire team and squad leaders. The subject range cannot accommodate a company size unit in a tactical environment. This is borne out by close examination of the target layout. FMF units would require dispersed targets, tactically positioned, encompassing all of the existing terrain available on Range #208 the subject range. Since the target installations are of a permanent nature it is not considered practical nor economical to relocate them. Normally "B" and "D" portions of the combat range are not used except to present targets for the pursuit phase of offensive combat. The "C" portion is suitable for squad training and demonstration purposes. However, only a few FMF squads have trained here--those which are assigned to the 2d Infantry Training Regiment for demonstration purposes. The "A" portion is reserved for quick fire reaction; the trainees advancing abreast of each other shooting at the targets as they appear.

(2) Places of installation. Marine Corps-wide use requirements would include FMF and Non-FMF organizations. This includes Marine Corps Bases, Posts and Stations. The cost of installing the subject range would be comparatively the same regardless of location. Climate and terrain at Camp Pendleton are very suitable for this type electrical installation

because it is dry and temperate. Therefore it could be stated that the Camp Pendleton cost could be a minimum estimate. In any other parts of the world additional costs would be encountered because equipment would have to be especially constructed to withstand extremes of climatic conditions. An expenditure of this nature, considering installation, operational and maintenance costs should be justified by extensive use. It is unlikely, however, that Marine units other than those stationed at large bases could satisfy this factor. Terrain and use requirements to install this type of range precludes all but the largest Marine Corps installations.

(3) Type of unit to be trained. The combat rifleman environmental training range by its very nature has about it, a certain amount of sophistication. It incorporates simulator devices, pop-up targets and obstacles. Its intended purpose is for advanced training rather than basic type training. It should be a training ground for organized units rather than individuals undergoing basic training. Therefore, the fire team, squad, platoon and rifle company should be the units primarily concerned with this type combat range. Recruit Depots, Infantry Training Regiments, Marine Barracks, and other non-FMF organizations can only be secondarily concerned with training of this progressiveness because of the time necessary to carry out their mission and training requirements set forth in MCO 1510.2G. All of these units are fully committed in conducting normal duties and fulfilling existing individual training requirements, and generally do not have the time for such advanced unit combat training.

b. To evaluate the "Range" potential as a standard package that can be made available through normal supply channels the following was considered:

(1) A combat Range, when installed, is a permanent thing. A permanent tower or towers have to be built. Underground cables from the target devices to the tower or towers are required as protection against small arms fire and the elements. If the climate is humid, cables must be enclosed in metal conduits to avoid moisture and insect damage. In arid climates, cables can be simply covered with earth. Simulator and target emplacements in humid climates must be constructed of concrete, while in arid climates, sandbags will suffice. Furthermore, terrain features will dictate the size of a combat range. For the foregoing reasons, a standard range package for every location would not be practical or economical. However, the following range "components" can be made readily available through the present supply system.

- (a) Target set 3C52b
- (b) Machine gun simulator 3C65c
- (c) Artillery simulator M17A1
- (d) Type "E" or "F" silhouette targets

It is considered that this type combat range because of its permanent nature and the great expense involved should be established at the major Marine Corps bases only. Therefore the requirement for this type range should be special and not a matter of normal supply.

c. If an effort was made to adapt this standard range to a uniform scoring system for use in annual or bi-annual qualification course, consideration must be given to these factors:

(1) The individual Marine. He must qualify or requalify on an individual basis. Experience shows the time consumption involved and the facilities required for annual completion of this type training. Extensive facilities paralleling our present rifle ranges would be required. Even though adequate facilities were installed for this purpose there exists the conflicting requirement for the combat training range. It is not feasible for one range to serve as an all purpose range because of the demand for simultaneous use.

(2) The scoring system. At the present time no standard scoring system to classify the individual shooter has been devised. Scoring of the squad is presently accomplished by counting total hits. This aspect is desirable which can be developed to include the factors of hit probability and hit distribution culminating with the judgement that a unit is well or poorly trained. This type scoring cannot replace known distance qualification but is a follow-up measure in advanced training.

(3) Replacement of the existing rifle qualification course. It is considered that the basic guidelines in teaching rifle marksmanship should remain the same. This foundation of basic fundamentals in teaching marksmanship has proven itself over a period of many years by producing excellent shooters year after year. This fundamental training should not be eliminated without good and sufficient cause. The subject range concept should be considered as advanced training to be undertaken upon completion of individual basic rifle qualification.

d. The subject range does not simulate realistic battle conditions. Nevertheless, for training purposes sufficient realism does exist. The element of surprise is created by the use of simulator devices, and pop-up targets stimulate quick reaction shooting. A certain degree of battle noise is created by these simulator devices. Although the noise is not that of actual artillery, mine, demolitions or machine guns, the noise does add to realism. Moulded together with the obstacles and terrain features employed, the battle conditions produced are acceptable for training purposes.

e. To be suitable for transition firing and for small unit problems many additional factors must be considered:

1. Transition firing is defined herein to mean shooting from a fixed firing point or firing line whereby the shooter detects targets, estimates ranges, and fires at unknown ranges varying from 50 yards to 500 yards, targets being located anywhere in that interval.

(2) Although a transition-type course could be fired on the range as it presently exists, results would be meager because of the lack of target distribution. Sufficient targets cannot be seen even when observing from the key terrain features. On the "A" Range portion of the combat range a series of five target ranges can be seen but are too few in number and are located less than 200 yards in depth. This is not adequate for transition firing.

(3) Relocation of targets is not feasible nor economical. Addition of targets could make this range suitable for transition firing.

(4) As for small unit problems in attack, defense and assault phases, this range is considered excellent for squad size problems. This is established by the fact that the primary purpose of the range in conducting unit-type training has been the squad attack and assault problem. The other utilization of Range #208 has been quick fire reaction training for the individual trainee of the 2d Infantry Training Regiment. Both types of training are conducted simultaneously.

(5) Utilization of the range by platoon and company size units is not feasible because of the range layout (location of target and simulator devices). A platoon attempting maneuvers within the range boundaries would be restricted to an unrealistic extent. The targets have been emplaced for the benefit of squad-size maneuver. Secondly, crew served weapons and supporting arms are restricted by the limitations of this range. Therefore the use of Range #208 by units larger than the squad is impractical and undesirable.

3. CONCLUSIONS. Based on the discussion in paragraph 2. above and discussions with personnel of the 2d Infantry Training Regiment and 1st Marine Division the following is concluded:

a. The subject range is not suitable for Marine Corps-wide use but the concept can be adapted to various terrain and tactical situations determined suitable and desirable by local commanders.

b. It is not practical nor economical to consider the subject range a standard supply "package". However, the following component parts can be made available through the present supply system:

(1) Target Device 3-C-52b.

(2) Machine Gun Simulator 3-C-65c.

(3) Artillery Simulator M17A1

(4) Type "E" or "F" Silhouette Targets

c. This range is not considered to be readily adaptable to a uniform scoring system for use in an annual or bi-annual qualification course.

d. This combat range simulates realistic battle conditions to a sufficient degree to warrant the expense involved in installing the simulators used.

e. This combat range is not suitable for transition firing as a follow-up to known distance marksmanship training.

f. This combat range is considered an excellent range for small unit problems in attack and defense.

g. Further testing of the subject range is not desirable nor necessary.

4. RECOMMENDATIONS. It is recommended that:

a. This range be considered as not suitable for Marine Corps-wide use.

b. This range be considered not practical as a standard package that can be made available through normal supply channels.

c. The following items be made available through normal supply channels:

(1) Target set 3C52B.

(2) Machine Gun simulator 3C65C.

(3) Artillery simulator M17A1.

(4) Type "E" or "F" silhouette targets.

d. This range be considered not suitable for adaption to a uniform scoring system for use in an annual or bi-annual qualification course.

e. This range be considered adequate for simulating realistic battle conditions.

f. This range be considered not suitable for transition firing as a follow-up to known distances marksmanship.

g. This range be considered as an excellent range for small unit problems in attack and defense.

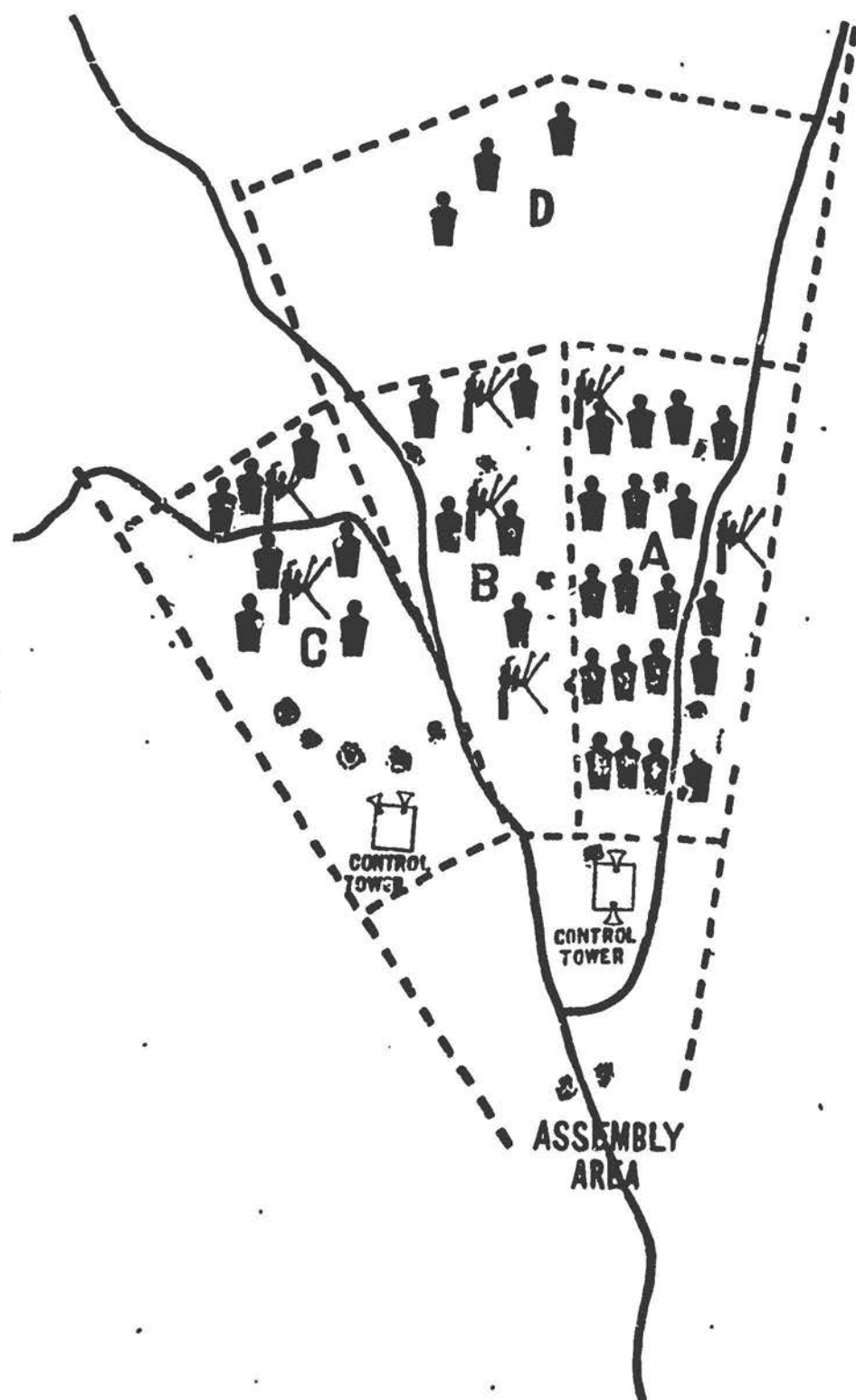
h. Project No. 31-62-02 be terminated.

L. W. WALT
DEPUTY COORDINATOR

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-  TARGET DEVICE
-  ARTILLERY FIRE SIMULATOR
-  AUTOMATIC WEAPON SIMULATOR



WEAPONS SECTION

- A - FIRE TEAM
- B - PLATOON
- C - SQUAD
- D - EXTENSION OF B
FOR SQUAD IN
PURSUIT BY FIRE
- 34 - POP-UP TARGETS

ENCLOSURE (1)